



COPY OF PAPERS  
ORIGINALLY FILED

[22750/536]

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Inventor : Walter BRANDENBURGER  
Serial No. : 10/075,794  
Filed : February 13, 2002  
For : **METHOD AND DEVICE FOR CONTROLLING  
SUSPENSION PERFORMANCE IN VEHICLES HAVING  
HYDROPNEUMATIC SUSPENSION DEVICES AND  
HIGHLY VARIABLE AXLE-LOAD RATIOS**

Examiner : To Be Assigned  
Art Unit : To Be Assigned

Commissioner for Patents  
Washington, D.C. 20231

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to:  
Commissioner for Patents, Washington, D.C. 20231 on

Date: 6/21/02 Reg. No 22,490

Signature: *Richard L. Mayer*  
Richard L. Mayer

**PRELIMINARY AMENDMENT**

S I R:

Kindly amend the above-captioned application before examination, as set forth below.

**IN THE CLAIMS:**

On the first page of the claims, first line, change "What is claimed is:"  
to --WHAT IS CLAIMED IS:--.

Please cancel, without prejudice, claims 1 to 10.

Please add the following new claims:

--11. (New) A method of controlling suspension performance in a vehicle having a hydropneumatic suspension device between suspended and unsuspended masses and extremely variable axle load ratios, wherein the suspension device has double-

action hydraulic cylinders between the suspended and unsuspended masses, their pressure chambers being connectable to a pump over pressure lines, with a pressure-regulating valve being installed in the pressure line to annular spaces, comprising: the pressure-regulating valve constantly correcting the pressure in the annular spaces to the pressure in the piston spaces in a predefined ratio, wherein the pressure ( $P_R$ ) in the annular spaces (7, 8) of the spring cylinders (1, 2) is increased in the low load range (n) on the front axle.

12. (New) The method according to Claim 11, wherein the pressure ( $P_R$ ) in the annular spaces (7, 8) is also increased in the high load range (h) of the front axle.

13. (New) The method according to Claim 11, wherein the annular space pressure ( $P_R$ ) is switched in two pressure stages having a difference of up to 50 bar as a function of the pressure ( $P_Z$ ) in the piston spaces (3, 4).

14. (New) A device for implementing the method according to Claim 11, comprising a hydropneumatic suspension device for vehicles having extremely variable load conditions, in which spring cylinders (1, 2) which have load-carrying piston spaces (3, 4) and pressure-loaded annular spaces (7, 8) surrounding the piston rod with a seal are situated between the suspended and unsuspended masses, the piston spaces (3, 4) being connected to a first hydraulic accumulator (15) and the annular spaces (7, 8) being connected to a second hydraulic accumulator (12), and a pressure-regulating valve (20) being provided, which is inserted into the pressure line (19) to the annular spaces (7, 8), wherein the pressure-regulating valve (20) is controlled by a pilot valve (56) which is actuated by the inlet pressure ( $P_Z$ ) to the piston spaces (3, 4) and which switches the pressure-regulating valve (20) to a higher regulating stage when the pressure drops below a predetermined inlet pressure ( $P_Z$ ) in the inlet line (16) to the piston spaces (3, 4).

15. (New) The device according to Claim 14, wherein the pilot valve (56), designed as a valve having a double reversal, switches the pressure-regulating valve (20) from the inlet pressure ( $P_Z$ ) to the higher regulating stage at a low pressure level and at a high pressure level.

16. (New) The device according to Claim 14, wherein the pilot valve (56) is a 3/2-way solenoid valve which is switched by the pressure sensor in the inlet pressure ( $P_z$ ).

17. (New) The device according to Claim 15, wherein the pilot valve (56) is a 3/2-way solenoid valve which is switched by the pressure sensor in the inlet pressure ( $P_z$ ).

18. (New) The device according to Claim 14, wherein the control line (42) for the regulating spring (41) of the pressure-regulating valve (20) is connected to the inlet line (63) leading to the annular spaces (7, 8) between the non-return valve (21) and the annular spaces (7, 8).

19. (New) The device according to Claim 15, wherein the control line (42) for the regulating spring (41) of the pressure-regulating valve (20) is connected to the inlet line (63) leading to the annular spaces (7, 8) between the non-return valve (21) and the annular spaces (7, 8).

20. (New) The device according to Claim 16, wherein the control line (42) for the regulating spring (41) of the pressure-regulating valve (20) is connected to the inlet line (63) leading to the annular spaces (7, 8) between the non-return valve (21) and the annular spaces (7, 8).

21. (New) The device according to Claim 14, wherein the control line (42) is provided with a deblockable non-return valve (50).

22. (New) The device according to Claim 15, wherein the control line (42) is provided with a deblockable non-return valve (50).

23. (New) The device according to Claim 16, wherein the control line (42) is provided with a deblockable non-return valve (50).

24. (New) The device according to Claim 18, wherein the control line (42) is provided with a deblockable non-return valve (50).

25. (New) The device according to Claim 14, wherein a throttle (18) is inserted between the connection (52) of the control line (42) to the inlet line (60) and the connecting line (11) of the annular spaces (7, 8).

26. (New) The device according to Claim 15, wherein a throttle (18) is inserted between the connection (52) of the control line (42) to the inlet line (60) and the connecting line (11) of the annular spaces (7, 8).

27. (New) The device according to Claim 16, wherein a throttle (18) is inserted between the connection (52) of the control line (42) to the inlet line (60) and the connecting line (11) of the annular spaces (7, 8).

28. (New) The device according to Claim 18, wherein a throttle (18) is inserted between the connection (52) of the control line (42) to the inlet line (60) and the connecting line (11) of the annular spaces (7, 8).

29. (New) The device according to Claim 14, wherein the deblocking control line (51) of the non-return valve (50) is connected to the control line (24) of the non-return valves (17, 21) of the inlet lines (16, 19).

30. (New) The device according to Claim 15, wherein the deblocking control line (51) of the non-return valve (50) is connected to the control line (24) of the non-return valves (17, 21) of the inlet lines (16, 19).--

#### **REMARKS**

This Preliminary Amendment cancels, without prejudice, claims 1 to 10 for the above-referenced patent application. The new claims, 11-30, inter alia, conform the claims to U.S. Patent and Trademark Office rules and do not add any new matter to the application.

Figure 1 consists of 12 bar charts (a-l) showing the percentage of total catch for various fish species in the Chesapeake Bay from 1990 to 2001. The species are: a) Atlantic croaker, b) Striped bass, c) Blue crabs, d) Spot, e) Weakfish, f) Bay anchovy, g) Atlantic silverside, h) Atlantic menhaden, i) Atlantic herring, j) Atlantic tomcod, k) Atlantic silverside, and l) Atlantic menhaden. Each chart displays data for 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, and 2001. The y-axis represents the percentage of total catch, ranging from 0 to 100. The x-axis represents the year. Error bars are shown for each data point.

KENYON & KENYON

6/21/02

Richard L. Mayer  
Reg. No. 22,490

**CUSTOMER NO. 26646**  
PATENT TRADEMARK OFFICE